10/501629

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=> d his

     (FILE 'HOME' ENTERED AT 11:59:11 ON 18 JAN 2008)

     FILE 'MEDLINE, EMBASE, BIOSIS, BIOTECHDS, SCISEARCH, HCAPLUS, NTIS,
     LIFESCI' ENTERED AT 11:59:37 ON 18 JAN 2008
L1            23 S AEQUOREA (W)COERULESCENS
L2            17 S (GFP OR FLUORESCENT) AND L1
L3       8833323 S CLON? OR EXPRESS? OR RECOMBINANT
L4             8 S L2 AND (MUTANT OR "222")
L5             3 DUP REM L4 (5 DUPLICATES REMOVED)
                 E GURSKAYA N G/AU
L6            79 S E3
                 E FRADKOV A F/AU
L7           104 S E3
                 E LUKYANOV S A/AU
L8           206 S E3
                 E PUNKOVA N I/AU
L9             6 S E3-E6
L10          290 S L6 OR L7 OR L8 OR L9
L11            3 S L1 AND L10
L12            2 DUP REM L11 (1 DUPLICATE REMOVED)

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PASSWORD:
TERMINAL (ENTER 1, 2, 3, OR ?):2

* * * * * * * * * * Welcome to STN International * * * * * * * * * *

NEWS	1		Web Page for STN Seminar Schedule - N. America
NEWS	2	AUG 06	CAS REGISTRY enhanced with new experimental property tags
NEWS	3	AUG 06	FSTA enhanced with new thesaurus edition
NEWS	4	AUG 13	CA/CAplus enhanced with additional kind codes for granted patents
NEWS	5	AUG 20	CA/CAplus enhanced with CAS indexing in pre-1907 records
NEWS	6	AUG 27	Full-text patent databases enhanced with predefined patent family display formats from INPADOCDB
NEWS	7	AUG 27	USPATOLD now available on STN
NEWS	8	AUG 28	CAS REGISTRY enhanced with additional experimental spectral property data
NEWS	9	SEP 07	STN AnaVist, Version 2.0, now available with Derwent World Patents Index
NEWS	10	SEP 13	FORIS renamed to SOFIS
NEWS	11	SEP 13	INPADOCDB enhanced with monthly SDI frequency
NEWS	12	SEP 17	CA/CAplus enhanced with printed CA page images from 1967-1998
NEWS	13	SEP 17	CAplus coverage extended to include traditional medicine patents
NEWS	14	SEP 24	EMBASE, EMBAL, and LEMBASE reloaded with enhancements
NEWS	15	OCT 02	CA/CAplus enhanced with pre-1907 records from Chemisches Zentralblatt
NEWS	16	OCT 19	BEILSTEIN updated with new compounds
NEWS	17	NOV 15	Derwent Indian patent publication number format enhanced
NEWS	18	NOV 19	WPIX enhanced with XML display format
NEWS	19	NOV 30	ICSD reloaded with enhancements
NEWS	20	DEC 04	LINPADOCDB now available on STN
NEWS	21	DEC 14	BEILSTEIN pricing structure to change
NEWS	22	DEC 17	USPATOLD added to additional database clusters
NEWS	23	DEC 17	IMSDRUGCONF removed from database clusters and STN
NEWS	24	DEC 17	DGENE now includes more than 10 million sequences
NEWS	25	DEC 17	TOXCENTER enhanced with 2008 MeSH vocabulary in MEDLINE segment
NEWS	26	DEC 17	MEDLINE and LMEDLINE updated with 2008 MeSH vocabulary
NEWS	27	DEC 17	CA/CAplus enhanced with new custom IPC display formats
NEWS	28	DEC 17	STN Viewer enhanced with full-text patent content from USPATOLD
NEWS	29	JAN 02	STN pricing information for 2008 now available
NEWS	30	JAN 16	CAS patent coverage enhanced to include exemplified prophetic substances

NEWS EXPRESS 19 SEPTEMBER 2007: CURRENT WINDOWS VERSION IS V8.2, CURRENT MACINTOSH VERSION IS V6.0c(ENG) AND V6.0Jc(JP), AND CURRENT DISCOVER FILE IS DATED 19 SEPTEMBER 2007.

NEWS HOURS	STN Operating Hours Plus Help Desk Availability
NEWS LOGIN	Welcome Banner and News Items
NEWS IPC8	For general information regarding STN implementation of IPC 8

Enter NEWS followed by the item number or name to see news on that specific topic.

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FILE 'HOME' ENTERED AT 11:59:11 ON 18 JAN 2008

=> file medline embase biosis biotechds scisearch hcaplus ntis lifesci
COST IN U.S. DOLLARS

	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	0.21	0.21

FILE 'MEDLINE' ENTERED AT 11:59:37 ON 18 JAN 2008

FILE 'EMBASE' ENTERED AT 11:59:37 ON 18 JAN 2008
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FILE 'BIOSIS' ENTERED AT 11:59:37 ON 18 JAN 2008
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FILE 'BIOTECHDS' ENTERED AT 11:59:37 ON 18 JAN 2008
COPYRIGHT (C) 2008 THE THOMSON CORPORATION

FILE 'SCISEARCH' ENTERED AT 11:59:37 ON 18 JAN 2008
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FILE 'HCAPLUS' ENTERED AT 11:59:37 ON 18 JAN 2008
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
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FILE 'NTIS' ENTERED AT 11:59:37 ON 18 JAN 2008
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It contains copyrighted material.
All rights reserved. (2008)

FILE 'LIFESCI' ENTERED AT 11:59:37 ON 18 JAN 2008
COPYRIGHT (C) 2008 Cambridge Scientific Abstracts (CSA)

=> s aequorea (w)coerulescens
L1 23 AEQUOREA (W) COERULESCENS

=> s (GFP or fluorescent) and l1
L2 17 (GFP OR FLUORESCENT) AND L1

=> clon? or express? or recombinant
CLON? IS NOT A RECOGNIZED COMMAND
The previous command name entered was not recognized by the system.
For a list of commands available to you in the current file, enter
"HELP COMMANDS" at an arrow prompt (=>).

=> s clon? or express? or recombinant
L3 8833323 CLON? OR EXPRESS? OR RECOMBINANT

=> s l2 and (mutant or "222")
L4 8 L2 AND (MUTANT OR "222")

```
=> dup rem l4
PROCESSING COMPLETED FOR L4
L5             3 DUP REM L4 (5 DUPLICATES REMOVED)

=> d 1-3 ibib ab

L5    ANSWER 1 OF 3  BIOTECHDS COPYRIGHT 2008 THE THOMSON CORP. on STN
ACCESSION NUMBER: 2006-19750  BIOTECHDS
TITLE:            Novel transgenic zebrafish that expresses Tau, amyloid
                  precursor protein or presenilin polypeptide or their fusion
                  polypeptides, or amyloid beta polypeptide, useful for
                  identifying modulator of Alzheimer's disease;
                     tau protein, amyloid precursor protein, amyloid-beta or
                     presenilin gene transfer and expresion in zebrafish neuron
                     for zebrafish transgenic fish and drug screening
AUTHOR:           RUBINSTEIN A L
PATENT ASSIGNEE:  ZYGOGEN LLC
PATENT INFO:      WO 2006081539 3 Aug 2006
APPLICATION INFO: WO 2006-US3165 27 Jan 2006
PRIORITY INFO:    US 2005-647493 27 Jan 2005; US 2005-647493 27 Jan 2005
DOCUMENT TYPE:    Patent
LANGUAGE:         English
OTHER SOURCE:     WPI: 2006-539425 [55]
AB    DERWENT ABSTRACT:
      NOVELTY - A transgenic zebrafish that expresses (a) a tau polypeptide,
      amyloid precursor protein (APP), amyloid beta or presenilin polypeptide,
      comprising a zebrafish neuron specific expression sequence operably
      linked to a nucleic acid encoding a tau, APP, amyloid beta or presenilin
      polypeptide, which is expressed in the neurons of the transgenic
      zebrafish, where the transgenic zebrafish exhibits a pathology associated
      with Alzheimer's Disease, or (b) a tau, APP or presenilin fusion
      polypeptide, comprising a zebrafish neuron specific expression sequence
      operably linked to a nucleic acid encoding a fusion polypeptide
      comprising a tau, APP or presenilin polypeptide and a fluorescent
      reporter polypeptide, is new.
           DETAILED DESCRIPTION - INDEPENDENT CLAIMS are included for: 1) a
      transgenic zebrafish that expresses a Tau (fusion) polypeptide; 2) a
      transgenic zebrafish that expresses an APP (fusion) polypeptide;3) a
      transgenic zebrafish that expresses an amyloid beta polypeptide;4) a
      transgenic zebrafish that expresses a presenilin (fusion) polypeptide;
           BIOTECHNOLOGY - Preferred Zebrafish: The zebrafish further comprises
      zebrafish neuron specific expression sequence operably linked to a
      nucleic acid encoding a fluorescent reporter polypeptide e.g.
      green fluorescent protein (GFP), Aequorea
      coerulescens green fluorescent protein (AcGFP) and
      DsRedExpress (DsRed protein). The neuron specific expression sequence is
      a neuron-specific promoter chosen from an elav promoter and a GATA-2
      promoter. The zebrafish neuron specific expression sequence and the
      sequence encoding the tau, APP, amyloid beta polypeptide are contained in
      an exogenous construct. The zebrafish develops neurofibrillary tangles,
      or exhibits neuronal cell damage. The tau, APP polypeptide, amyloid beta
      or presenilin is a mutant tau, APP, amyloid beta polypeptide or
      presenilin. The expression sequence comprises an inducible promoter,
      being an inducible UAS promoter activated by GAL4/VP16. The zebrafish
      further comprises a nucleic acid encoding a zinc transporter. Preferred
      Method: Identifying an agent that modulates a pathology associated with
      disease comprises: a) contacting the zebrafish with a test agent; b)
      comparing the neuronal pathology of the zebrafish contacted with the test
      agent to the neuronal pathology of a zebrafish not contacted with the
      test agent; c) determining the effect of the test agent on the zebrafish,
      such that if there is a difference in the neuronal pathology of the
      zebrafish contacted with the test agent and the zebrafish not contacted
      with the test agent, the test agent is an agent that modulates a
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pathology associated with Alzheimer's disease. The difference in neuronal pathology is a decrease in neuronal cell death in the zebrafish contacted with the test agent as compared to the zebrafish not contacted with the test agent or a decrease in neurofibrillary tangles in the zebrafish contacted with the test agent as compared to the zebrafish not contacted with the test agent. The difference is neuronal pathology is a decrease in neuronal fluorescence. The difference in neuronal pathology is a decrease in protein expression in the zebrafish contacted with the test agent as compared to the zebrafish not contacted with the test agent. Identifying an agent that modulates neuronal pathology comprises: a) administering a test agent to a transgenic zebrafish expressing a reporter protein in neurons; b) comparing the expression of the reporter protein in the neurons of the zebrafish contacted with the test agent with the expression of the reporter protein in the neurons of a transgenic zebrafish that was not contacted with the test agent; and c) determining the effect of the test compound on the expression of the reporter protein in the neurons, such that if the number of neurons in the zebrafish contacted with the test agent is greater than the number of neurons in the zebrafish that was not contacted with the test agent, the test agent is an agent that modulates neuronal pathology and is a neuroproliferative agent. The reporter protein is a fluorescent reporter polypeptide.

ACTIVITY - Nootropic; Neuroprotective. No biological data given.

MECHANISM OF ACTION - None given.

USE - For identifying an agent that modulates a pathology associated with Alzheimer's disease (claimed).

ADVANTAGE - The transgenic zebrafish enables identification of an agent that modulates a pathology associated with Alzheimer's disease.(75 pages)

L5 ANSWER 2 OF 3 BIOTECHDS COPYRIGHT 2008 THE THOMSON CORP. on STN
DUPLICATE 1

ACCESSION NUMBER: 2003-22532 BIOTECHDS
TITLE: New nucleic acid molecule present in other than its natural environment and that encodes a fluorescent protein from Aequorea coerulescens, useful for various labeling applications;
involving vector-mediated gene transfer and expression in host cell for use in labeling and biosensor
AUTHOR: GURSKAYA N; FRADLOV A; LUKYANOV S; PUNKOVA N
PATENT ASSIGNEE: EVROGEN JSC
PATENT INFO: WO 2003062270 31 Jul 2003
APPLICATION INFO: WO 2003-IB907 17 Jan 2003
PRIORITY INFO: US 2002-351518 22 Jan 2002; US 2002-351518 22 Jan 2002
DOCUMENT TYPE: Patent
LANGUAGE: English
OTHER SOURCE: WPI: 2003-608187 [57]

AB DERWENT ABSTRACT:

NOVELTY - A nucleic acid molecule present in other than its natural environment and that encodes a fluorescent protein from Aequorea coerulescens, is new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are included for the following: (1) a construct comprising a vector and the above nucleic acid molecule; (2) an expression cassette comprising a transcriptional initiation region functional in an expression host, the above nucleic acid molecule, and a transcriptional termination region functional in the expression host; (3) a cell, or its progeny, comprising the expression cassette; (4) a method of producing a chromo- or fluorescent protein, comprising growing the cell cited above under conditions where the chromo- or fluorescent protein is expressed; (5) a protein or its fragment encoded by the above nucleic acid, or a protein or its fragment having a sequence similarity of at least about 95% to the above-mentioned protein or fragment; (6) a fusion protein incorporating the protein or fragment cited above; (7) an antibody binding specifically

to the above protein; (8) a transgenic organism comprising the above nucleic acid; and (9) a kit comprising the above nucleic acid and instructions for using the nucleic acid.

BIOTECHNOLOGY - Preferred Nucleic Acid: The nucleic acid is isolated. It encodes a fluorescent protein comprising any of the 12 amino acid sequences not clearly defined in the specification. The nucleic acid comprises a sequence that is substantially similar to or identical to a nucleotide sequence of at least 10 residues in length taken from any of the 12 nucleotide sequences not clearly defined in the specification. Alternatively, the nucleic acid has a sequence similarity of at least about 70% with any of the above-mentioned nucleotide sequences. Additionally, the nucleic acid encodes a mutant fluorescent protein comprising at least one point mutation or at least one deletion mutation as compared to a wild-type protein. The nucleic acid or its mimetic may hybridize under stringent conditions to a similar nucleic acid or its complements or fragments. Preferred Method: Producing a chromo- or fluorescent protein further comprises isolating the chromo- or fluorescent protein substantially free of other proteins. Preparation: The nucleic acid molecule was prepared using standard isolation techniques.

USE - The nucleic acid molecule and protein are useful in labeling applications, in fluorescence resonance energy transfer methods, or as biosensors in prokaryotic and eukaryotic cells. (76 pages)

L5 ANSWER 3 OF 3 MEDLINE on STN DUPLICATE 2

ACCESSION NUMBER: 2003313870 MEDLINE
DOCUMENT NUMBER: PubMed ID: 12693991
TITLE: A colourless green fluorescent protein homologue from the non-fluorescent hydromedusa Aequorea coerulescens and its fluorescent mutants.
AUTHOR: Gurskaya Nadya G; Fradkov Arkady F; Pounkova Natalia I; Staroverov Dmitry B; Bulina Maria E; Yanushevich Yurii G; Labas Yulii A; Lukyanov Sergey; Lukyanov Konstantin A
CORPORATE SOURCE: Shemyakin and Ovchinnikov Institute of Bioorganic Chemistry RAS, Miklukho-Maklaya 16/10, Moscow 117997, Russia.
SOURCE: The Biochemical journal, (2003 Jul 15) Vol. 373, No. Pt 2, pp. 403-8.
Journal code: 2984726R. ISSN: 0264-6021.
PUB. COUNTRY: England: United Kingdom
DOCUMENT TYPE: (COMPARATIVE STUDY)
Journal; Article; (JOURNAL ARTICLE)
(RESEARCH SUPPORT, NON-U.S. GOV'T)
LANGUAGE: English
FILE SEGMENT: Priority Journals
OTHER SOURCE: GENBANK-AY151052; GENBANK-AY233272
ENTRY MONTH: 200308
ENTRY DATE: Entered STN: 8 Jul 2003
Last Updated on STN: 16 Aug 2003
Entered Medline: 15 Aug 2003

AB We have cloned an unusual colourless green fluorescent protein (GFP)-like protein from Aequorea coerulescens (acGFPL). The A. coerulescens specimens displayed blue (not green) luminescence, and no fluorescence was detected in these medusae. Escherichia coli expressing wild-type acGFPL showed neither fluorescence nor visible coloration. Random mutagenesis generated green fluorescent mutants of acGFPL, with the strongest emitters found to contain an Glu(222)-->Gly (E222G) substitution, which removed the evolutionarily invariant Glu(222). Re-introduction of Glu(222) into the most fluorescent random mutant, named aceGFP, converted it into a colourless protein. This colourless aceGFP-G222E protein demonstrated a novel type of UV-induced photoconversion, from an immature non-fluorescent form into a green fluorescent form.

Fluorescent aceGFP may be a useful biological tool, as it was able to be expressed in a number of mammalian cell lines. Furthermore, expression of a fusion protein of 'humanized' aceGFP and beta-actin produced a fluorescent pattern consistent with actin distribution in mammalian cells.

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     FILE 'MEDLINE, EMBASE, BIOSIS, BIOTECHDS, SCISEARCH, HCAPLUS, NTIS,
     LIFESCI' ENTERED AT 11:59:37 ON 18 JAN 2008
L1            23 S AEQUOREA (W)COERULESCENS
L2            17 S (GFP OR FLUORESCENT) AND L1
L3       8833323 S CLON? OR EXPRESS? OR RECOMBINANT
L4             8 S L2 AND (MUTANT OR "222")
L5             3 DUP REM L4 (5 DUPLICATES REMOVED)

=> e Gurskaya n g/au
E1             1     GURSKAYA MARINA/AU
E2            12     GURSKAYA N/AU
E3            79 --> GURSKAYA N G/AU
E4            10     GURSKAYA N I/AU
E5            10     GURSKAYA N V/AU
E6            41     GURSKAYA N Z/AU
E7             2     GURSKAYA NADEJDA/AU
E8             3     GURSKAYA NADEZDA GEORGIEVNA/AU
E9             3     GURSKAYA NADIA/AU
E10            2     GURSKAYA NADIA G/AU
E11            3     GURSKAYA NADYA/AU
E12           39     GURSKAYA NADYA G/AU

=> s e3
L6            79 "GURSKAYA N G"/AU

=> e fradkov a f/au
E1             2     FRADKOV A A/AU
E2            39     FRADKOV A B/AU
E3           104 --> FRADKOV A F/AU
E4             5     FRADKOV A I/AU
E5           112     FRADKOV A L/AU
E6             9     FRADKOV A S/AU
E7             3     FRADKOV ALEXANDER/AU
E8             6     FRADKOV ALEXANDER L/AU
E9             6     FRADKOV ARCADY/AU
E10            2     FRADKOV ARCADY F/AU
E11           15     FRADKOV ARCADY FEDOROVICH/AU
E12            9     FRADKOV ARKADY/AU

=> s e3
L7           104 "FRADKOV A F"/AU

=> e lukyanov s a/au
E1             1     LUKYANOV RS/AU
E2           244     LUKYANOV S/AU
E3           206 --> LUKYANOV S A/AU
E4             2     LUKYANOV S A */AU
E5             1     LUKYANOV S G/AU
E6            18     LUKYANOV S I/AU
E7            19     LUKYANOV S L/AU
E8           269     LUKYANOV S M/AU
E9             3     LUKYANOV S N/AU
E10            4     LUKYANOV S P/AU
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E11           1      LUKYANOV S S/AU
E12          26      LUKYANOV S V/AU

=> s e3
L8          206 "LUKYANOV S A"/AU

=> e punkova n i/au
E1            1      PUNKOVA N/AU
E2            1      PUNKOVA N G/AU
E3            1 --> PUNKOVA N I/AU
E4            1      PUNKOVA N L/AU
E5            1      PUNKOVA NATALIA/AU
E6            3      PUNKOVA NATALIA I/AU
E7            1      PUNKOVIC N/AU
E8            1      PUNKOVSKII A N/AU
E9            8      PUNKRUT W/AU
E10          43      PUNKT J/AU
E11           7      PUNKT JUERGEN/AU
E12          99      PUNKT K/AU

=> s e3-e6
L9            6 ("PUNKOVA N I"/AU OR "PUNKOVA N L"/AU OR "PUNKOVA NATALIA"/AU
                OR "PUNKOVA NATALIA I"/AU)

=> d his

     (FILE 'HOME' ENTERED AT 11:59:11 ON 18 JAN 2008)

     FILE 'MEDLINE, EMBASE, BIOSIS, BIOTECHDS, SCISEARCH, HCAPLUS, NTIS,
     LIFESCI' ENTERED AT 11:59:37 ON 18 JAN 2008
L1           23 S AEQUOREA (W)COERULESCENS
L2           17 S (GFP OR FLUORESCENT) AND L1
L3      8833323 S CLON? OR EXPRESS? OR RECOMBINANT
L4            8 S L2 AND (MUTANT OR "222")
L5            3 DUP REM L4 (5 DUPLICATES REMOVED)
                E GURSKAYA N G/AU
L6           79 S E3
                E FRADKOV A F/AU
L7          104 S E3
                E LUKYANOV S A/AU
L8          206 S E3
                E PUNKOVA N I/AU
L9            6 S E3-E6

=> s l6 or l7 or l8 or l9
L10         290 L6 OR L7 OR L8 OR L9

=> s l1 and l10
L11           3 L1 AND L10

=> dup rem l11
PROCESSING COMPLETED FOR L11
L12           2 DUP REM L11 (1 DUPLICATE REMOVED)

=> d 1-2 ibib ab

L12  ANSWER 1 OF 2  HCAPLUS  COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER:         2003:591209  HCAPLUS
DOCUMENT NUMBER:          139:129175
TITLE:                    Sequences of novel fluorescent proteins from Aequorea
                          coerulscens and use
INVENTOR(S):              Gurskaya, Nadejda; Fradlov, Arkadiy; Lukyanov, Sergey;
                          Punkova, Natalia
PATENT ASSIGNEE(S):       Evrogen, Jsc, USA
```

SOURCE: PCT Int. Appl., 76 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2003062270	A2	20030731	WO 2003-IB907	20030117
WO 2003062270	A3	20031127		
WO 2003062270	B1	20040401		
WO 2003062270	A8	20041104		
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
CA 2474108	A1	20030731	CA 2003-2474108	20030117
EP 1485481	A2	20041215	EP 2003-706812	20030117
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
JP 2005526495	T	20050908	JP 2003-562147	20030117
US 2006167225	A1	20060727	US 2004-501629	20040715
PRIORITY APPLN. INFO.:			US 2002-351518P P	20020122
			WO 2003-IB907 W	20030117

AB The present invention provides protein and cDNA sequences of a novel colorless GFP-like protein, acGFP, from Aequorea coerulscens and fluorescent and non-fluorescent mutants and derivs. thereof, as well as peptides and proteins encoded by these nucleic acid compns. The subject protein and nucleic acid compns. of the present invention are colored and/or fluorescent and/or can be photoactivated, and can be used in a variety of different biol. applications, particularly for labeling. Finally, kits for use in such biol. applications are provided.

L12 ANSWER 2 OF 2 EMBASE COPYRIGHT (c) 2008 Elsevier B.V. All rights reserved on STN DUPLICATE 1
ACCESSION NUMBER: 2003300328 EMBASE
TITLE: A colourless green fluorescent protein homologue from the non-fluorescent hydromedusa Aequorea coerulescens and its fluorescent mutants.
AUTHOR: Gurskaya N.G.; Fradkov A.F.; Pounkova N.I.; Staroverov D.B.; Bulina M.E.; Yanushevich Y.G.; Labas Y.A.; Lukyanov S.; Lukyanov K.A.
CORPORATE SOURCE: K.A. Lukyanov, Shemyakin/Ovchinnikov Inst. B., Miklukho-Maklaya 16/10, Moscow 117997, Russian Federation. kluk@ibch.ru
SOURCE: Biochemical Journal, (15 Jul 2003) Vol. 373, No. 2, pp. 403-408.
Refs: 25
ISSN: 0264-6021 CODEN: BIJOAK
COUNTRY: United Kingdom
DOCUMENT TYPE: Journal; Article
FILE SEGMENT: 029 Clinical and Experimental Biochemistry
LANGUAGE: English
SUMMARY LANGUAGE: English
ENTRY DATE: Entered STN: 14 Aug 2003
Last Updated on STN: 14 Aug 2003
AB We have cloned an unusual colourless green fluorescent protein (GFP)-like

protein from Aequorea coerulescens (acGFPL). The A. coerulescens specimens displayed blue (not green) luminescence, and no fluorescence was detected in these medusae. Escherichia coli expressing wild-type acGFPL showed neither fluorescence nor visible coloration. Random mutagenesis generated green fluorescent mutants of acGFPL, with the strongest emitters found to contain an Glu(222) → Gly (E222G) substitution, which removed the evolutionarily invariant Glu(222). Reintroduction of Glu(222) into the most fluorescent random mutant, named aceGFP, converted it into a colourless protein. This colourless aceGFP-G222E protein demonstrated a novel type of UV-induced photoconversion, from an immature non-fluorescent form into a green fluorescent form. Fluorescent aceGFP may be a useful biological tool, as it was able to be expressed in a number of mammalian cell lines. Furthermore, expression of a fusion protein of 'humanized' aceGFP and β-actin produced a fluorescent pattern consistent with actin distribution in mammalian cells.

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L5            3 DUP REM L4 (5 DUPLICATES REMOVED)
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L6           79 S E3
                E FRADKOV A F/AU
L7          104 S E3
                E LUKYANOV S A/AU
L8          206 S E3
                E PUNKOVA N I/AU
L9            6 S E3-E6
L10         290 S L6 OR L7 OR L8 OR L9
L11           3 S L1 AND L10
L12           2 DUP REM L11 (1 DUPLICATE REMOVED)
```

	Document ID	Kind Codes	Source	Issue Date	Pages
1	US 20070298412 A1		US-PGPUB	20071227	38
2	US 20060167225 A1		US-PGPUB	20060727	56

	Title
1	Fluorescent Proteins And Chromoproteins From Non-Aequorea Hydrozoa Species And Methods For Using Same
2	Novel fluorescent protein from aequorea coerulscens and methods for using the same

EAST Search History

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	12	aequorea adj coerulescens	US-PGPUB; USPAT	OR	OFF	2008/01/18 12:11
L2	2	(mutant or "222") same l1	US-PGPUB; USPAT	OR	OFF	2008/01/18 12:10
L3	337	LUKYANOV FRADKOV GURSKAYA	US-PGPUB; USPAT	OR	OFF	2008/01/18 12:18
L4	2	l1 and l3	US-PGPUB; USPAT	OR	OFF	2008/01/18 12:18

	Document ID	Kind Codes	Source	Issue Date	Pages
1	US 20070298412 A1		US-PGPUB	20071227	38
2	US 20070266458 A1		US-PGPUB	20071115	77
3	US 20070072267 A1		US-PGPUB	20070329	26
4	US 20070015229 A1		US-PGPUB	20070118	29
5	US 20060257886 A1		US-PGPUB	20061116	12
6	US 20060188890 A1		US-PGPUB	20060824	21
7	US 20060167225 A1		US-PGPUB	20060727	56
8	US 20050181453 A1		US-PGPUB	20050818	32
9	US 20050032132 A1		US-PGPUB	20050210	24
10	US 20040248208 A1		US-PGPUB	20041209	72
11	US 20040171067 A1		US-PGPUB	20040902	89
12	US 20040043490 A1		US-PGPUB	20040304	17

	Document ID	Kind Codes	Source	Issue Date	Pages
1	US 20060167225 A1		US-PGPUB	20060727	56
2	US 20050032132 A1		US-PGPUB	20050210	24

	Title
1	Novel fluorescent protein from aequorea coerulscens and methods for using the same
2	Cancer diagnostics

Attachment #4

GenCore version 6.2.1

OM protein - protein search, using sw model

Run on: January 18, 2008, 11:27:26 ; Search time 1 Seconds
(without alignments)
0.057 Million cell updates/sec

Title: US-10-501-629-2
Perfect score: 1209
Sequence: 1 MSKGAELFTGVVPILIELNG.....IYFEFVTAAAITHGMDELYK 238

Scoring table: PAM320
Gapop 1.0 , Gapext 0.1

Scoring matrix - Pam320
gap penalty - 1
gap size penalty - 0.1

Searched: 1 seqs, 238 residues

Total number of hits satisfying chosen parameters: 1

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : 6919186.pep:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	1165	96.4	238	1	US-09-967-301-3	Sequence 3, Appli

ALIGNMENTS

RESULT 1
US-09-967-301-3
; Sequence 3, Application US/09967301
; Patent No. 6919186
; GENERAL INFORMATION:
; APPLICANT: Stubbs, Simon L.
; APPLICANT: Jones, Anne E.
; APPLICANT: Michael, Nigel P.
; APPLICANT: Thomas, Nicholas
; TITLE OF INVENTION: Fluorescent Proteins
; FILE REFERENCE: PA0111

; CURRENT APPLICATION NUMBER: US/09/967,301
; CURRENT FILING DATE: 2001-09-28
; PRIOR APPLICATION NUMBER: GB 0109858.1
; PRIOR FILING DATE: 2001-04-23
; NUMBER OF SEQ ID NOS: 19
; SOFTWARE: PatentIn Ver. 2.1
; SEQ ID NO 3
; LENGTH: 238
; TYPE: PRT
; ORGANISM: Artificial Sequence
; FEATURE:
; OTHER INFORMATION: Description of Artificial Sequence: synthetic
; OTHER INFORMATION: protein
US-09-967-301-3

Query Match 96.4%; Score 1165; DB 1; Length 238;
Best Local Similarity 91.2%; Pred. No. 0;
Matches 217; Conservative 16; Mismatches 5; Indels 0; Gaps 0;

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Qy          1 MSKGAELFTGVVPILIELNGDVNGHKFSVSGEGEGDATYGKLTLKFICTTGKLPVPWPTL 60
              |||| |||||||||||:||:||||||||||||||||||||||||||||||||||||||||
Db          1 MSKGEELFTGVVPILVELDGDVNGHKFSVSGEGEGDATYGKLTLKFICTTGKLPVPWPTL 60

Qy         61 VTTFSYGVQCFSRYPDHMKQHDFFKSAMPEGYIQERTIFFKDDGNYKSRAEVKFEGDTLV 120
              |||:|||||||||||||:||||||||||:|||||||||||||:||||||||||||
Db         61 VTTLSYGVQCFSRYPDHMKRHDFFKSAMPEGYVQERTIFFKDDGNYKTRAEVKFEGDTLV 120

Qy        121 NRIELTGTDFKEDGNILGNKMEYNYNAHNVYIMTDKAKNGIKVNFKIRHNIEDGSVQLAD 180
              ||||| | ||||||||||:|:|||||:||||||:|| ||||||||||||||||:|||||
Db        121 NRIELKGIDFKEDGNILGHKLEYNYNSHNVYIMADKQKNGIKVNFKIRHNIEDGGVQLAD 180

Qy        181 HYQQNTPIGDGPVLLPDNHYLSTQSTLSKDPNEKRDHMIYFEFVTAAAITHGMDELYK 238
              |||||||||||||||||||||||||:||||||||||: ::|||||:||||||||||
Db        181 HYQQNTPIGDGPVLLPDNHYLSTQSALSKDPNEKRDHMVLLGFVTAAGITHGMDELYK 238
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Search completed: January 18, 2008, 11:27:26
Job time : 1 secs